

## Chapter 6: Supporting Information

### 6

#### 6.1 List of Tables

Table 2.1 Survey responses indicating the proximity of trees to homes. ....	16
Table 2.2. Percent of homes with indicated fire fighting tools in Nez Perce County. ....	16
Table 2.3. Fuel Hazard Rating Worksheet.....	17
Table 2.4. Percent of respondents in each risk category as determined by the survey respondents. ....	17
Table 2.5. Percent of respondents in each risk category as determined by the survey respondents. ....	18
Table 2.6. Percent of respondents in each risk category as determined by the survey respondents. ....	18
Table 2.7. Public Opinion of Wildfire Mitigation Funding Preferences. ....	18
Table 2.8. Public meeting slide show.....	28
Table 3.1 Selected demographic statistics for Nez Perce County, Idaho, from Census 2000....	34
Table 3.2 Income in 1999. ....	36
Table 3.3 Poverty Status in 1999 (below poverty level).....	36
Table 3.4 Employment & Industry.....	37
Table 3.5 Class of Worker .....	38
Table 3.6. Levels of direct employment by industrial sector .....	42
Table 3.7. National Register of Historic Places in Nez Perce County, Idaho.....	44
Table 3.8. Cover Types in Nez Perce County.....	47
Table 3.9 Climate records for Lewiston, Idaho (Nez Perce County). ....	49
Table 3.10 Climate records for Winchester, Idaho (Lewis County).....	49
Table 3.11. Number of wildfire ignitions (profile) by 5-year period 1983-2002.....	52
Table 3.12. Wildfire Ignitions by Cause in Nez Perce County by cause. ....	52
Table 3.13. National Fire Season 2002 Summary .....	52
Table 3.14. Total Fires and Acres 1960 - 2002 Nationally.....	53
Table 3.15. Suppression Costs for Federal Agencies Nationally.....	53
Table 3.16. Wildfire Ignition Profile of Nez Perce County 1983-2002, Idaho Department of Lands. ....	54
Table 3.17 Fire Prone Landscape rankings and associated acres in each category for Nez Perce County. ....	74
Table 3.18. Natural Historic Fire Regimes in Nez Perce County, Idaho. ....	76

Table 3.19. Fire Regime Condition Class Definitions. ....	77
Table 3.20. FRCC by area in Nez Perce County. ....	78
Table 3.21. Predicted Fire Severity by area in Nez Perce County.....	79
Table 3.22. Comparative Fire Intensities and Rates of Spread in Timber Fuel Models.....	84
Table 3.23. Comparative Fire Intensities and Rates of Spread in Slash Fuel Models.....	85
Table 3.24 Municipal water supplies in Nez Perce County. ....	92
Table 4.1. Nez Perce County Communities .....	103
Table 4.2 Nez Perce County Fire Department .....	119
Table 4.3 Potlatch Corporation Fire Department .....	121
Table 4.4 Idaho Department of Lands - Craig Mountain Area .....	121
Table 4.5 Idaho Department of Lands-Ponderosa Fire Protection District .....	122
Table 4.6. Idaho Department of Lands - Maggie Creek Area .....	123
Table 4.7 Clearwater Power Company .....	125
Table 4.8 Clearwater Fire Service .....	125
Table 4.9 Culdesac Volunteer Fire Department.....	127
Table 4.10 Lapwai Fire Department.....	128
Table 4.11 Sunnyside Fire District .....	130
Table 4.12 City of Lewiston Fire Department.....	132
Table 4.13 Genesee City and Rural Fire Department.....	133
Table 4.14 Juliaetta Volunteer Fire Department .....	135
Table 4.15 Kendrick Volunteer Fire Department.....	138
Table 4.16. Proposed Mitigation Projects from the BLM in Nez Perce County.....	142
Table 5.1. WUI Action Items in Safety and Policy.....	146
Table 5.2. WUI Action Items for People and Structures. ....	149
Table 5.3. Infrastructure Enhancements.....	155
Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.....	156
Table 6.1. List of Preparers.....	161

## 6.2 List of Figures

Figure 2.1. Nez Perce County Public Meeting Slide Show .....	27
Figure 3.1. Nez Perce County Wildfire Ignition Profile .....	51
Figure 3.2. Nez Perce County Wildfire Extent Profile .....	51
Figure 3.3 Fire Prone Landscapes in Nez Perce County.....	73
Figure 3.4: Distribution of area by Fire Prone Landscape Class. ....	74
Figure 3.5 Wildland-Urban Interface of Nez Perce County.....	88

## 6.3 List of Preparers

The following personnel participated in the formulation, compilation, editing, and analysis of alternatives for this assessment.

**Table 6.1. List of Preparers**


Name	Affiliation	Role
William E. Schlosser, Ph.D.	Northwest Management, Inc.	<b>Lead Author</b> , Project Manager, GIS Analyst, Natural Resource Economist, Hazard Mitigation Specialist
Tom Richards, B.S.	Northwest Management, Inc.	Project Co-Manager, Fire Mitigation, Silviculture Systems
Vincent P. Corrao, B.S.	Northwest Management, Inc.	Resource Management Specialist, Deputy Project Manager
Tera Duman, B.S.	Northwest Management, Inc.	Natural Resource Manager, Fire Control Technician
John A. Erixson, M.S.	Northwest Management, Inc.	Range Management, Fire Specialist
Dennis S. Thomas	Northwest Management, Inc.	Fire & Fuels Specialist, Prescribed Burning Manager
Vaiden E. Bloch, M.S.	Northwest Management, Inc.	GIS Analyst
Greg Bassler, M.S.	Northwest Management, Inc.	Roads Engineer, Timber Sale Layout & Harvest Manager

## 6.4 Signature Pages

This **Nez Perce County Wildland Urban Interface Wildfire Mitigation Plan** has been developed in cooperation and collaboration with the representatives of the following organizations, agencies, and individuals.

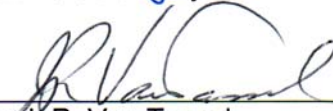
### 6.4.1 Representatives of Nez Perce County Government

This Wildfire Mitigation Plan and all of its components identified herein were adopted formally through a resolution of the Board of County Commissioners as of 28 March 2005, resolution number **2005-03-053**, recorded in the official record of the Nez Perce County Commissioners.



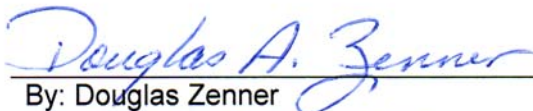
By: Ron Wittman, Chairman  
Nez Perce County Commissioner

3-28-05  
Date



By: J. R. Van Tassel  
Nez Perce County Commissioner

3/28/05  
Date



By: Douglas Zenner  
Nez Perce County Commissioner

3/28/05  
Date



By: Mel Johnson  
Disaster Services Coordinator

4/05/05  
Date



By: Kevin Poole  
Nez Perce County Highway District

8/25/05  
Date



By: Jim Dorian  
Nez Perce County Sheriff


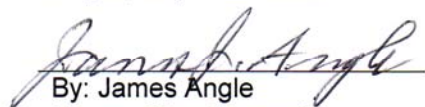
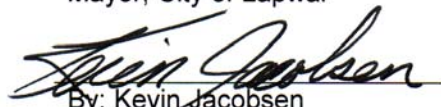
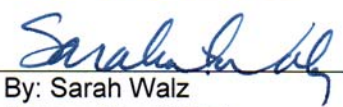
04/16/2005  
Date



By: Dan Anderson  
Nez Perce County Assessor

9/28/05  
Date


#### 6.4.2 Representatives of City Government in Nez Perce County

 By: Jeff Nessel Mayor, City of Lewiston	<u>October 27, 2005</u> Date	Adopted by Resolution of the City Resolution Number: <u>2005-77</u> Adoption Date: <u>10-24-05</u>
 By: James Angle Mayor, City of Lapwai	<u>Sept 29 2005</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
 By: Kevin Jacobsen Mayor, City of Culdesac	<u>06-29-05</u> Date	Adopted by Resolution of the City Resolution Number: <u>05-05</u> Adoption Date: <u>06/29/05</u>
 By: Sarah Walz Mayor, City of Peck	_____ Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____

#### 6.4.3 Representatives of City and Rural Fire Districts in Nez Perce County

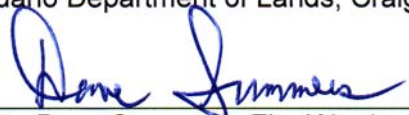
<u>Randy Moss</u> By: Randy Moss Big Canyon Fire Department	<u>7-7-05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Gary Gilliam</u> By: Gary Gilliam Culdesac Rural Fire Department	<u>4/1/2005</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Steve Cooper</u> By: Steve Cooper Lewiston Fire Department	<u>10-7-05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Mark Sugden</u> By: Mark Sugden Lapwai Fire Department	<u>9/28/05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Val Norris</u> By: Val Norris Kendrick Fire Department	<u>8/4/05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Mike McGee</u> By: Mike McGee Juliaetta Fire Department	<u>08-04-05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>John Willard</u> By: John Willard Sunnyside Fire Department	<u>4/27/05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Darrell Kilgore</u> By: Darrell Kilgore Genesee Fire Department	<u>10/17/05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____
<u>Ron Hall</u> By: Ron Hall Nez Perce County Fire Department	<u>3-28-05</u> Date	Adopted by Resolution of the City Resolution Number: _____ Adoption Date: _____

#### 6.4.4 Representatives of Community Organizations, Federal, and State Agencies

  
By: Thom Hawkins, Fire Warden  
Idaho Department of Lands, Craig Mountain

10-4-05

Date

  
By: Dave Summers, Fire Warden  
Idaho Department of Lands, Maggie Creek

10-20-05

Date

  
By: Roger Kechter, Fire Warden  
Idaho Department of Lands, Ponderosa


7-7-05

Date

  
By: Dave Ellsworth  
Clearwater Fire Service

7-7-05

Date

  
By: John DeGroot  
Nez Perce Tribe

9/30/05

Date

  
By: Greg Yuncevich  
USDI, Bureau of Land Management


10/4/05

Date

  
By: Charles E. Doty, President  
Clearwater Resources Conservation and Development  
Council, Inc.

10/27/05

Date

  
By: William E. Schlosser, Ph.D.  
Project Manager-Nez Perce County Wildfire Mitigation  
Plan, Lead Author, Northwest Management, Inc

3/28/05

Date

## ***Glossary of Terms***

**Anadromous** - Fish species that hatch in fresh water, migrate to the ocean, mature there, and return to fresh water to reproduce (Salmon & Steelhead).

**Appropriate Management Response** - Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

**Biological Assessment** - Information document prepared by or under the direction of the Federal agency in compliance with U.S. Fish and Wildlife standards. The document analyzes potential effects of the proposed action on listed and proposed threatened and endangered species and proposed critical habitat that may be present in the action area.

**Backfiring** - When attack is indirect, intentionally setting fire to fuels inside the control line to contain a rapidly spreading fire. Backfiring provides a wide defense perimeter, and may be further employed to change the force of the convection column.

**Blackline** - Denotes a condition where the fireline has been established by removal of vegetation by burning.

**Burning Out** - When attack is direct, intentionally setting fire to fuels inside the control line to strengthen the line. Burning out is almost always done by the crew boss as a part of line construction; the control line is considered incomplete unless there is no fuel between the fire and the line.

**Canyon Grassland** - Ecological community in which the prevailing or characteristic plants are grasses and similar plants extending from the canyon rim to the rivers edge.

**Confine** - Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.

**Contingency Plans:** Provides for the timely recognition of approaching critical fire situations and for timely decisions establishing priorities to resolve those situations.

**Control Line** - An inclusive term for all constructed or natural fire barriers and treated fire edge used to control a fire.

**Crew** - An organized group of firefighters under the leadership of a crew boss or other designated official.

**Crown Fire** - A fire that advances from top to top of trees or shrubs more or less independently of the surface fire. Sometimes crown fires are classed as either running or dependent, to distinguish the degree of independence from the surface fire.

**Disturbance** - An event which affects the successional development of a plant community (examples: fire, insects, windthrow, timber harvest).

**Disturbed Grassland** - Grassland dominated by noxious weeds and other exotic species. Greater than 30% exotic cover.

**Diversity** - The relative distribution and abundance of different plant and animal communities and species within an area.

**Drainage Order** - Systematic ordering of the net work of stream branches, ( e.g., each non-branching channel segment is designated a first order stream, streams which only receive first order segments are termed second order streams).

**Duff** - The partially decomposed organic material of the forest floor beneath the litter of freshly fallen twigs, needles, and leaves.

**Ecosystem** - An interacting system of interdependent organisms and the physical set of conditions upon which they are dependent and by which they are influenced.

**Ecosystem Stability** - The ability of the ecosystem to maintain or return to its steady state after an external interference.

**Ecotone** - The area influenced by the transition between plant communities or between successional stages or vegetative conditions within a plant community.

**Energy Release Component** - The Energy Release Component is defined as the potential available energy per square foot of flaming fire at the head of the fire and is expressed in units of BTUs per square foot.

**Equivalent Clearcut Area (ECA)** - An indicator of watershed condition, which is calculated from the total amount of crown removal that has occurred from harvesting, road building, and other activities based on the current state of vegetative recovery.

**Exotic Plant Species** - Plant species that are introduced and not native to the area.

**Fire Adapted Ecosystem** - An arrangement of populations that have made long-term genetic changes in response to the presence of fire in the environment.

**Fire Behavior** - The manner in which a fire reacts to the influences of fuel, weather, and topography.

**Fire Behavior Forecast** - Fire behavior predictions prepared for each shift by a fire behavior analysis to meet planning needs of fire overhead organization. The forecast interprets fire calculations made, describes expected fire behavior by areas of the fire, with special emphasis on personnel safety, and identifies hazards due to fire for ground and aircraft activities.

**Fire Behavior Prediction Model** - A set of mathematical equations that can be used to predict certain aspects of fire behavior when provided with an assessment of fuel and environmental conditions.

**Fire Danger** - A general term used to express an assessment of fixed and variable factors such as fire risk, fuels, weather, and topography which influence whether fires will start, spread, and do damage; also the degree of control difficulty to be expected.

**Fire Ecology** - The scientific study of fire's effects on the environment, the interrelationships of plants, and the animals that live in such habitats.

**Fire Exclusion** - The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

**Fire Intensity Level** - The rate of heat release (BTU/second) per unit of fire front. Four foot flame lengths or less are generally associated with low intensity burns and four to six foot flame lengths generally correspond to "moderate" intensity fire effects. High intensity flame lengths are usually greater than eight feet and pose multiple control problems.

**Fire Prone Landscapes** - The expression of an area's propensity to burn in a wildfire based on common denominators such as plant cover type, canopy closure, aspect, slope, road density, stream density, wind patterns, position on the hillside, and other factors.

**Fireline** - A loose term for any cleared strip used in control of a fire. That portion of a control line from which flammable materials have been removed by scraping or digging down to the mineral soil.

**Fire Management** - The integration of fire protection, prescribed fire and fire ecology into land use planning, administration, decision making, and other land management activities.

**Fire Management Plan (FMP)** - A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. This plan is supplemented by operational procedures such as preparedness, preplanned dispatch, burn plans, and prevention. The fire implementation schedule that documents the fire management program in the approved forest plan alternative.

**Fire Management Unit (FMU)** - Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent unit. FMU's are delineated in FMP's. These units may have dominant management objectives and preselected strategies assigned to accomplish these objectives.

**Fire Occurrence** - The number of wildland fires started in a given area over a given period of time. (Usually expressed as number per million acres.)

**Fire Prevention** - An active program in conjunction with other agencies to protect human life, prevent modification, of the ecosystem by human-caused wildfires, and prevent damage to cultural resources or physical facilities. Activities directed at reducing fire occurrence, including public education, law enforcement, personal contact, and reduction of fire risks and hazards.

**Fire Regime** - The fire pattern across the landscape, characterized by occurrence interval and relative intensity. Fire regimes result from a unique combination of climate and vegetation. Fire regimes exist on a continuum from short-interval, low-intensity (stand maintenance) fires to long-interval, high-intensity (stand replacement) fires.

**Fire Retardant** - Any substance that by chemical or physical action reduces flareability of combustibles.

**Fire Return Interval** - The number of years between two successive fires documented in a designated area.

**Fire Risk** - The potential that a wildfire will start and spread rapidly as determined by the presence and activities of causative agents.

**Fire Severity** - The effects of fire on resources displayed in terms of benefit or loss.

**Foothills Grassland** - Grass and forb co-dominated dry meadows and ridges. Principle habitat type series: bluebunch wheatgrass and Idaho fescue.

**Fuel** - The materials which are burned in a fire; duff, litter, grass, dead branchwood, snags, logs, etc.

**Fuel Break** - A natural or manmade change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled.

**Fuel Loading** - Amount of dead fuel present on a particular site at a given time; the percentage of it available for combustion changes with the season.

**Fuel Model** - Characterization of the different types of wildland fuels (trees, brush, grass, etc.) and their arrangement, used to predict fire behavior.

**Fuel Type** - An identifiable association of fuel elements of distinctive species; form, size, arrangement, or other characteristics, that will cause a predictable rate of fire spread or difficulty of control, under specified weather conditions.

**Fuels Management** - Manipulation or reduction of fuels to meet protection and management objectives, while preserving and enhancing environmental quality.

**Gap Analysis Program (GAP)** - Regional assessments of the conservation status of native vertebrate species and natural land cover types and to facilitate the application of this information to land management activities. This is accomplished through the following five objectives:

1. Map the land cover of the United States
2. Map predicted distributions of vertebrate species for the U.S.
3. Document the representation of vertebrate species and land cover types in areas managed for the long-term maintenance of biodiversity
4. Provide this information to the public and those entities charged with land use research, policy, planning, and management
5. Build institutional cooperation in the application of this information to state and regional management activities

**Habitat** - A place that provides seasonal or year-round food, water, shelter, and other environmental conditions for an organism, community, or population of plants or animals.

**Heavy Fuels** - Fuels of a large diameter, such as snags, logs, and large limbwood, which ignite and are consumed more slowly than flash fuels.

**Hydrologic Unit Code** - A coding system developed by the U. S. Geological Service to identify geographic boundaries of watersheds of various sizes.

**Hydrophobic** - Resistance to wetting exhibited by some soils, also called water repellency. The phenomena may occur naturally or may be fire-induced. It may be determined by water drop penetration time, equilibrium liquid-contact angles, solid-air surface tension indices, or the characterization of dynamic wetting angles during infiltration.

**Human-Caused Fires** - Refers to fires ignited accidentally (from campfires or smoking) and by arsonists; does not include fires ignited intentionally by fire management personnel to fulfill approved, documented management objectives (prescribed fires).

**Intensity** - The rate of heat energy released during combustion per unit length of fire edge.

**Inversion** - Atmospheric condition in which temperature increases with altitude.

**Ladder Fuels** - Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

**Landsat Imagery** - Land remote sensing, the collection of data which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites.

**Landscape** - All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land which the eye can comprehend in a single view, including all its natural characteristics.

**Lethal** - Relating to or causing death; extremely harmful.

**Lethal Fires** - A descriptor of fire response and effect in forested ecosystems of high-severity or severe fire that burns through the overstory and understory. These fires typically consume large woody surface fuels and may consume the entire duff layer, essentially destroying the stand.

**Litter** - The top layer of the forest floor composed of loose debris, including dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

**Maximum Manageable Area** - The boundary beyond which fire spread is completely unacceptable.

**Metavolcanic** - Volcanic rock that has undergone changes due to pressure and temperature.

**Minimum Impact Suppression Strategy (MIST)** - “Light on the Land.” Use of minimum amount of forces necessary to effectively achieve the fire management protection objectives consistent with land and resource management objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects when determining how to implement an appropriate suppression response.

**Mitigation** - Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

**Monitoring Team** - Two or more individuals sent to a fire to observe, measure, and report its behavior, its effect on resources, and its adherence to or deviation from its prescription.

**National Environmental Policy Act (NEPA)** - This act declared a national policy to encourage productive and enjoyable harmony between humans and their environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and will stimulate the health and welfare of humankind; to enrich the understanding of important ecological systems and natural resources; and to establish a Council on Environmental Quality.

**National Fire Management Analysis System (NFMAS)** - The fire management analysis process, which provides input to forest planning and forest and regional fire program development and budgeting.

**Native** - Indigenous; living naturally within a given area.

**Natural Ignition** - A wildland fire ignited by a natural event such as lightning or volcanoes.

**Noncommercial Thinning** - Thinning by fire or mechanical methods of precommercial or commercial size timber, without recovering value, to meet MFP standards relating to the protection/enhancement of adjacent forest or other resource values.

**Notice of Availability** - A notice of Availability published in the Federal Register stating that an EIS has been prepared and is available for review and comment (for draft) and identifying where copies are available.

**Notice of Intent** - A notice of Intent published in the Federal Register stating that an EIS will be prepared and considered. This notice will describe the proposed action and possible alternatives, the proposed scoping process, and the name and address of whom to contact concerning questions about the proposed action and EIS.

**Noxious Weeds** - Rapidly spreading plants that have been designated “noxious” by law which can cause a variety of major ecological impacts to both agricultural and wild lands.

**Planned Ignition** - A wildland fire ignited by management actions to meet specific objectives.

**Prescribed Fire** - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

**Prescription** - A set of measurable criteria that guides the selection of appropriate management strategies and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

**Programmatic Biological Assessment** - Assesses the effects of the fire management programs on Federally listed species, not the individual projects that are implemented under these programs. A determination of effect on listed species is made for the programs, which is a valid assessment of the potential effects of the projects completed under these programs, if the projects are consistent with the design criteria and monitoring and reporting requirement contained in the project description and summaries.

**Reburn** - Subsequent burning of an area in which fire has previously burned but has left flareable light that ignites when burning conditions are more favorable.

**Riparian Habitat Conservation Areas (RHCA)** - Portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCAs include traditional riparian corridors, wetlands, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris, and nutrient delivery systems.

**Riparian Management Objectives (RMO)** - Quantifiable measures of stream and streamside conditions that define good fish habitat and serve as indicators against which attainment or progress toward attainment of goals will be measured.

**Road Density** - The volume of roads in a given area (mile/square mile).

**Scoping** - Identifying at an early stage the significant environmental issues deserving of study and de-emphasizing insignificant issues, narrowing the scope of the environmental analysis accordingly.

**Seral** - Refers to the stages that plant communities go through during succession. Developmental stages have characteristic structure and plant species composition.

**Serotinous** - Storage of coniferous seeds in closed cones in the canopy of the tree. Serotinous cones of lodgepole pine do not open until subjected to temperatures of 113 to 122 degrees Fahrenheit causing the melting of the resin bond that seals the cone scales.

**Stand Replacing Fire** - A fire that kills most or all of a stand.

**Sub-basin** - A drainage area of approximately 800,000 to 1,000,000 acres, equivalent to a 4th - field Hydrologic Unit Code.

**Surface Fire** - Fire which moves through duff, litter, woody dead and down, and standing shrubs, as opposed to a crown fire.

**Watershed** - The region draining into a river, river system, or body of water.

**Wetline** - Denotes a condition where the fireline has been established by wetting down the vegetation.

**Wildland Fire** - Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

**Wildland Fire Implementation Plan (WFIP)** - A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire being managed for resource benefits. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires managed for resource benefits will have two-three stages of the WFIP completed while some fires that receive a suppression response may only have a portion of Stage I completed).

**Wildland Fire Situation Analysis (WFSA)** - A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

**Wildland Fire Use** - The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in FMP's. Operational management is described in the WFIP. Wildland fire use is not to be confused with "fire use", which is a broader term encompassing more than just wildland fires.

**Wildland Fire Use for Resource Benefit (WFURB)** - A wildland fire ignited by a natural process (lightning), under specific conditions, relating to an acceptable range of fire behavior and managed to achieve specific resource objectives.

## **6.5 Literature Cited**

- Agee, J.K. 1993. Fire ecology of the Pacific Northwest forests. Washington: Island Press.
- Agee, J.K. 1998. The Landscape Ecology of western Forest Fire Regimes. Northwest Science, Vol. 72, Special Issue 1998.
- Anderson, H. 1982. Aids to Determining Fuel Models for Estimating Fire Behavior. USDA Forest Service, Intermountain Forest and Range Experiment Station. INT-GTR-122. 22 pp.
- Barrett, J.W. 1979. Silviculture of ponderosa pine in the Pacific Northwest: the state of our knowledge. USDA Forest Service, General Technical Report PNW-97. Pacific Northwest Forest and Range Experiment Station, Portland, OR. 106 p.
- Brown, J.K. 1995. Fire regimes and their relevance to ecosystem management. Pages 171-178 *In* Proceedings of Society of American Foresters National Convention, Sept. 18-22, 1994, Anchorage, AK. Society of American Foresters, Wash. DC.
- Beukema, S.J., D.C. Greenough, C.E. Robinson, W.A. Kurtz, E.D. Reinhardt, N.L. Crookston, J.K. Brown, C.C. Hardy, and A.R. Stage. 1997. An Introduction to the Fire and Fuels Extension to FVS. In: Teck, R., Moeur, and Adams. Proceedings of the Forest Vegetation Simulator Conference, 1997 February 3-7, Fort Collins, Co. Gen. Tech. Rep. INT-373. Ogden UT:USDA Forest Service, Intermountain Research Station.
- Dillman, D.A. 1978. Mail and Telephone Surveys: The Total Design Method. Hoboken: John Wiley & Sons, Incorporated. 344 p.
- Fiedler, Carl E., Charles E. Keegan III, Chris W. Woodall, Todd A. Morgan, Steve H. Robertson, John T. Chmelik. 2001. A STRATEGIC ASSESSMENT OF FIRE HAZARD IN MONTANA. Report submitted to the Joint Fire Sciences Program, September 29, 2001. Pp. 39.
- Final Environmental Impact Statement North-Kennedy Cottonwood stewardship Project Emmett Ranger District, Boise National Forest March 2003.
- Graham, W.G. and L.J. Campbell. 1995. Groundwater Resources of Idaho. Idaho Department of Water Resources, Boise, ID. GIS Data.
- Hammond, C.; Hall, D.; Miller, S.; Swetik, P. 1992. Level 1 stability analysis (LISA) documentation for version 2.0 USDA, Forest Service. General Technical Report INT-285. Intermountain Research Station, Ogden, UT.
- Hann, W.J., Bunnell, D.L. 2001. Fire and land management planning and implementation across multiple scales. *Int. J. Wildland Fire*. 10:389-403.
- Hardy, C.C., Schmidt, K.M., Menakis, J.M., Samson, N.R. 2001. Spatial data for national fire planning and fuel management. *International Journal of Wildland Fire* 10:353-372.
- Harris, C., P.S. Cook, and J. O'Laughlin. 2003. Forest Resource-Based Economic Development in Idaho: Analysis of Concepts, Resource Management Policies, and Community Effects. Policy Analysis Group, University of Idaho, College of Natural Resources, Report № 22. Pp 82.
- Holsapple, L.J., Snell, K. 1996. Wildfire and prescribed fire scenarios in the Columbia River Basin: relationship to particulate matter and visibility. In: Keane, R.E., Jones, J.L., Riley, L.S., Hann, W.J., tech. eds. Compilation of administrative reports: multi-scale landscape dynamics in the Basin and portions of the Klamath and Great basins. On file with: U. S. Department of Agriculture, Forest Service, Department of Interior, Bureau of Land

- Management; Interior Columbia Basin Ecosystem Management Project, 112 E. Poplar, Walla Walla, WA 99362.
- Homer, C.G. 1998. Idaho/western Wyoming landcover classification report and metadata. Department of Geography and Earth Resources. Utah State University. Logan, UT 84322-9635. [chomer@gis.usu.edu](mailto:chomer@gis.usu.edu)
- Huff, M.H., Ottmar, R.D., Alvarado, E., et al. 1995. Historical and current forest landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production. Gen. Tech. Rep. PNW-GTR-355. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 43p. (Everett, Richard L., team leader; Eastside forest health assessment; Hessburg, Paul F., science team leader and tech. ed., Volume III: assessment.)
- IDEQ (Idaho Department of Environmental Quality). 2003. Rules of the Department of Environmental Quality, IDAPA 58.01.02, "Water Quality Standards and Wastewater Treatment Requirements". Idaho Administrative Code (3-20-97), IDAPA 58.01.02, Boise, ID.
- Johnson, C.G.; Clausnitzer, R.R.; Mehringer, P.J.; Oliver, C.D. 1994. Biotic and Abiotic Processes of Eastside Ecosystems: the Effects of Management on Plant and Community Ecology, and on Stand and Landscape Vegetation Dynamics. Gen. Tech. Report PNW-GTR-322. USDA-Forest Service. PNW Research Station. Portland, Oregon. 722pp.
- Johnson, C.G. 1998. Vegetation Response after Wildfires in National Forests of Northeastern Oregon. 128 pp.
- Levinson, D.H. 2002. Montana/Idaho Airshed Group; Operating Guide. Montana / Idaho Airshed Group, Missoula, MT 59808
- Louks, B. 2001. Air Quality PM 10 Air Quality Monitoring Point Source Emissions; Point site locations of DEQ/EPA Air monitoring locations with Monitoring type and Pollutant. Idaho Department of Environmental Quality. Feb. 2001. As GIS Data set. Boise, Id.
- McCoy, L., K. Close, J. Dunchrack, S. Husari, and B. Jackson. 2001. May 6 –24, 2001. Cerro Grande Fire Behavior Narrative.
- MacDonald, L. H.; Smart, A.W.; and Wissmar, R.C. 1991. Monitoring guidelines to evaluate effects of forestry activities on streams in the Pacific Northwest and Alaska. USEPA Region 10 Report No. 910/9-91-001.
- Mill Creek Watershed Assessment Emmett Ranger Districts, Boise National Forest May 2003
- National Interagency Fire Center. 2003. Information posted on the Agency's Internet web site at <http://www.nifc.gov/>
- National Register of Historic Places. 2003. Internet web site listings for Nez Perce County, Idaho. On the Internet at [www.nationalregisterofhistoricalplaces.com](http://www.nationalregisterofhistoricalplaces.com)
- Norton, P. 2002. Bear Valley National Wildlife Refuge Fire Hazard Reduction Project: Final Environmental Assessment, June 20, 2002. Fish and Wildlife Service, Bear Valley National Wildlife Refuge.
- Ottmar, Roger D.; Alvarado, E.; Hessburg, P.F.; [and others]. 1996. Historical and current forest and range landscapes in the interior Columbia River basin and portions of the Klamath and Great basins. Part III: Linking vegetation patterns to potential smoke production and fire behavior. Draft report. On file with: U.S. Department of Agriculture, Forest Service;

- U.S. Department of interior, Bureau of Land management; Interior Columbia Basin Ecosystem Management project, 112 E. Poplar, Walla Walla, WA.
- Quigley, T. and S. Arbelbide (Tech. Editors). 1997. An assessment of Ecosystem Components in the Interior Columbia Basin. Pacific Northwest Research Station, Walla Walla, WA. GTR-405. pp. 372, 460, 462, 480-486, 855-869.
- Quigley, T.M., R.A. Gravenmier, R.T. Graham, tech. eds. 2001. Interior Columbia Basin Ecosystem Management Project: project data. Station Misc. Portland, OR. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.
- Redmond, R.L. 1997. Mapping existing vegetation and land cover across western Montana and Northern Idaho. Wildlife Spatial Analysis Lab. Montana Cooperative Fish and Wildlife Research Unit. University of Montana, Missoula, MT 59812.
- Schlosser, W.E., V.P. Corrao, D. Thomas. 2002. Shoshone County Wildland Urban Interface Fire Mitigation Plan, Final Report. Northwest Management, Inc., Moscow, ID.
- Schmidt, K.M., Menakis, J.P. Hardy, C.C., Hann, W.J., Bunnell, D.L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. General Technical Report, RMRS-GTR-87, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- Scott, H.S. 1998. Fuel reduction in residential and scenic forests: a comparison of three treatments in western Montana ponderosa pine stand. Res. Pap. RMRS-RP-5. Ogden, UT. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 19 p.
- Steele, R.; Arno, S.F.; and Geier-Hayes, K. 1986. Wildfire patterns change in Central Idaho's ponderosa pine-Douglas-fir forest.
- Swanson, F.J. 1978. Fire and geomorphic processes; in Fire Regimes and Ecosystem Properties. USDA Forest Service Gen. Tech. Rep. WO. 26 pp.
- Thompson, R.A., P.H. Skabelund, N.C. Kulesza, E.N. Dean. 1973. Soil - Hydrologic Reconnaissance. New Meadows Ranger District, Payette National Forest. 242 pp.
- USDA. 1999. Salmon River Canyon Project Draft Environmental Statement. USDA Forest Service. Nez Perce National Forest.
- USDA-Forest Service (United States Department of Agriculture, Forest Service). 2000. Incorporating Air Quality Effects of Wildland Fire Management into Forest Plan Revisions – A Desk Guide. April 2000. - Draft
- USFS. 2001. United States Department of Agriculture, Forest Service. Wildland Urban Interface. Web page. Date accessed: 25 September 2001. Accessed at: <http://www.fs.fed.us/r3/sfe/fire/urbanint.html>
- Vogl, R.J. 1979. Some basic principles of grassland fire management. Environmental Management 3(1):51-57, 1979.
- Wright, H.A. and A.W. Bailey. 1980. Fire ecology and prescribed burning in the Great Plains – A research review. United States Department of Agriculture, Forest Service, Intermountain Forest Range Experiment Station, Ogden, Utah. General Technical Report. INT-77.
- Wright, H. A. and Bailey, A.W. 1982. Fire ecology: United States and Southern Canada. John Wiley and Sons, Inc. 501 pp.

This plan was developed by Northwest Management, Inc., under contract with the Clearwater Resource Conservation and Development Council, Inc., with funding provided by the USDI Bureau of Land Management and Nez Perce County.

**Citation of this work:**

Schlosser, W.E. Tera R. Duman *Lead Auths.* 2005. Nez Perce County, Idaho, Wildland-Urban Interface Wildfire Mitigation Plan. Northwest Management, Inc., Moscow, Idaho. March 28, 2005. Pp. 176.

Schlosser, W.E. Tera Duman *Lead Auths.* 2005. Nez Perce County, Idaho, Wildland-Urban Interface Wildfire Mitigation Plan Appendices. Northwest Management, Inc., Moscow, Idaho. March 28, 2005. Pp. 41.

---

Last Page of Document



**Northwest Management, Inc.**

233 East Palouse River Drive

PO Box 9748

Moscow ID 83843

208-883-4488 Telephone

208-883-1098 Fax

[NWManage@consulting-foresters.com](mailto:NWManage@consulting-foresters.com) e-Mail

<http://www.Consulting-Foresters.com/> Internet

(Remainder Intentionally Blank)